

WHAT IS CLAIMED IS:

1 1. A method for reducing acquisition times in a GPS receiver associated with a
2 cellular device, comprising the steps of:

3 determining at startup of the GPS receiver occurrence of at least one of the
4 following conditions: ephemeris data at the GPS receiver older than a predetermined period
5 of time and a change in a mobile country code and mobile network code of the cellular
6 device associated with of the GPS receiver;

7 obtaining data for the GPS receiver from a reference server responsive to
8 occurrence of one of the conditions; and

9 calculating a current position of the GPS receiver at a reduced acquisition time
10 using at least the obtained data.

1 2. The method of Claim 1, wherein the step of obtaining further comprises the
2 step of obtaining ephemeris and almanac data from the reference server via the internet.

1 3. The method of Claim 1, wherein the step of obtaining further comprises the
2 step of obtaining ephemeris and almanac data using a WAP protocol.

1 4. The method of Claim 1, wherein the step of determining further comprises the
2 step of comparing a present mobile country code and mobile network code with a previous
3 mobile country code and mobile network code to determine if a change has occurred in the
4 mobile country code and mobile network code of the GPS receiver.

1 5. The method of Claim 1, further comprising the step of obtaining an
2 approximate position of the GPS receiver based upon a present mobile country code and
3 mobile network code associated with the GPS receiver.

1 6. The method of Claim 5, wherein the approximate position comprises a
2 longitude and latitude.

1 7. The method of Claim 5, wherein the step of obtaining the approximate
2 position further comprises the steps of:

3 comparing the present mobile country code and mobile network code with
4 entries in a table of mobile country codes and mobile network codes having position data
5 associated therewith to locate a corresponding mobile country code and mobile network
6 code; and

7 selecting the position data associated with a corresponding mobile country
8 code and mobile network code as the approximate position of the GPS receiver.

1 8. The method of Claim 1, wherein the step of calculating a current position
2 further comprises the step of determining a current position using the approximate position of
3 the GPS receiver.

1 9. The method of Claim 1, further comprising the step of obtaining a present
2 time associated with the GPS receiver based upon the mobile country code and the mobile
3 network code associated with the GPS receiver.

1 10. The method of Claim 9, wherein the step of obtaining the present time further
2 comprises the steps of:

3 accessing a table of mobile country codes and mobile network codes having
4 position data associated therewith;

5 comparing the present mobile country code and mobile network code with
6 entries in the table to locate a corresponding mobile country code and mobile network code;

7 determining if the position data has changed by a selected amount between the
8 present mobile country code and mobile network code and the corresponding mobile network
9 code and mobile country code; and

10 if the position data has not changed by the selected amount, determining a
11 time for a previously used time zone.

1 11. The method of Claim 1, wherein the predetermined period of time
2 corresponds to approximately two hours.

1 12. The method of Claim 1, wherein the step of obtaining further comprises the
2 step of obtaining ephemeris and almanac data using a Mobile Internet Protocol.

1 13. A method for reducing acquisition times in a GPS receiver associated with a
2 cellular device, comprising the steps of:

3 determining at startup of the GPS receiver occurrence of a change in a mobile
4 country code or mobile network code of the cellular device associated with the GPS receiver;
5 accessing a table of mobile country codes and mobile network codes having
6 position data associated therewith;

7 comparing the present mobile country code and mobile network code with
8 entries in the table to locate a corresponding mobile country code and mobile network code;

9 selecting the position data associated with a corresponding mobile country
10 code and mobile network code as an approximate position of the GPS receiver; and

11 calculating a current position using the approximate position of the GPS
12 receiver at a reduced acquisition time using at least the position data.

1 14. The method of Claim 13, further comprising the step of obtaining ephemeris
2 and almanac data from a reference server via the internet.

1 15. The method of Claim 14, wherein the step of obtaining further comprises the
2 step of obtaining ephemeris and almanac data using a Mobile Internet Protocol.

1 16. The method of Claim 14, wherein the step of obtaining further comprises the
2 step of obtaining ephemeris and almanac data using a WAP protocol.

1 17. The method of Claim 13, wherein the step of determining further comprises
2 the step of comparing a present mobile country code and mobile network code with a
3 previous mobile country code and mobile network code to determine a change has occurred
4 in a mobile country code or mobile network code of the GPS receiver.

1 18. The method of Claim 13, further comprising the step of obtaining a present
2 time associated with the GPS receiver based upon the mobile country code and the mobile
3 network code associated with the GPS receiver.

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1 19. The method of Claim 18, wherein the step of obtaining a present time further
2 comprises the steps of:

3 accessing a table of mobile country codes and mobile network codes having
4 position data associated therewith;

5 comparing the present mobile country code and mobile network code with
6 entries in the table to locate a corresponding mobile country code and mobile network code;

7 and

8 determining if the position data has changed by a selected amount determining
9 if the position data has changed by a selected amount between the present mobile country
10 code and mobile network code and the corresponding mobile network code and mobile
11 country code; and

12 if the position data has not changed by the selected amount, determining a
13 time for a previously used time zone.

1 20. A wireless communications device, comprising:

2 a wireless transceiver for establishing a connection with the Internet;

3 a GPS receiver for determining a position of the wireless communications
4 device;

5 a table including a plurality of mobile country code and mobile network code
6 pairs, each pair of mobile country codes and mobile network codes having a longitude and
7 latitude associated therewith;

8 a controller configured to:

9 determine at startup of the GPS receiver occurrence of at least one of
10 the following conditions: ephemeris data at the GPS receiver older than a
11 predetermined period of time and a change in a mobile country code and mobile
12 network code of the wireless communications device;

13 obtain an approximate position of the GPS receiver from the table
14 based upon a present mobile country code and mobile network code associated with
15 the GPS receiver.

16 obtain data for the GPS receiver from a reference server on the Internet
17 using the wireless transceiver responsive to occurrence of one of the conditions; and

18 determine a current position of the GPS receiver at a reduced
19 acquisition time using at least the obtained data and the approximate position.

1 21. The wireless communications device of Claim 20, wherein the predetermined
2 period of time corresponds to approximately two hours.

1 22. The wireless communication device of Claim 20, wherein the controller is
2 further configured to obtain ephemeris and almanac data from the reference server via the
3 internet.

1 23. The wireless communication device of Claim 22, wherein the controller is
2 further configured to obtain ephemeris and almanac data using a Mobile Internet Protocol.

1 24. The wireless communication device of Claim 22, wherein the controller is
2 further configured to obtain ephemeris and almanac data using a WAP protocol.

1 25. The wireless communication device of Claim 20, wherein the controller is
2 further configured to compare a present mobile country code and mobile network code with a
3 previous mobile country code and mobile network code to determine a change has occurred
4 between mobile country code and mobile network code of the GPS receiver.

1 26. The wireless communication device of Claim 20, wherein the approximate
2 position comprises a longitude and latitude.

1 27. The wireless communication device of Claim 20, wherein the controller is
2 further configured to:

3 access the table of mobile country codes and mobile network codes having
4 position data associated therewith;

5 compare the present mobile country code and mobile network code with
6 entries in the table to locate a corresponding mobile country code and mobile network code;
7 and

8 select the longitude and latitude associated with a corresponding mobile
9 country code and mobile network code as the approximate position of the GPS receiver.

1 28. The wireless communication device of Claim 20, wherein the controller is
2 further configured to obtain a present time associated with the GPS receiver based upon the
3 mobile country code and the mobile network code associated with the GPS receiver.

1 29. The wireless communication device of Claim 28, wherein the controller is
2 further configured to:

3 access a table of mobile country codes and mobile network codes having
4 position data associated therewith;

5 compare the present mobile country code and mobile network code with
6 entries in the table to locate a corresponding mobile country code and mobile network code;

7 and

8 determine if the position data has changed by a selected amount;

9 if the position data has not changed by the selected amount, determine a time
10 for a previously used time zone.